

Amendments to the Claims :

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17(canceled)

18. A differential Ternary content addressable memory (TCAM) cell comprising:

two storage memory cells;
two pair N transistors connected to match line; and
two pair N transistors connected to dummy line.

19 The differential TCAM cell of claim 18, wherein the two memory cells store the corresponding value encoded from data bit and mask bit respectively, the contents stored in the two memory cell are called X bit and Y bit.

20 The differential TCAM cell of claim 18, wherein the two pair N transistor connected to match line logically work as a comparator to compare the input data and its complementary with X bit and Y bit stored in the two memory cells.

21. The differential TCAM cell of claim 18 , wherein the capacitance loaded to dummy line of two pair N transistor connected to dummy line are equal to the capacitance loaded to match line of the two pair N transistor connected to match line.

22. The differential TCAM cell of claim 18, wherein the two pair N transistors connected to dummy line are logically OFF and conduct no current from dummy line to GND.

23-33 Cancelled

34.(new) a differential content addressable memory (CAM) cell comprising:
one storage memory cell;
two pair N transistors connected to match line; and
two pair N transistors connected to dummy line.

35(new) the differential CAM cell of claim 34, wherein the two pair N transistor connected to match line work as a comparator.

36(new) the differential CAM cell of claim 34, wherein the capacitance loaded to dummy line from two pair N transistor connected to dummy line are equal to the capacitance loaded to match line from two pair N transistor connected to match line.

37(new) The differential CAM cell of claim 34, wherein the two pair N transistors connected to dummy line are logically OFF and conduct no current from dummy line to ground.

38(new) . A differential ternary content addressable memory (TCAM) cell comprising:
two storage memory cell;
two group three transistor in serial connected to match line; and
two group three transistor in serial connected to dummy line.

39(new) . The differential TCAM cell of claim 38, wherein one storage memory cell store the data to be compared and the other storage memory cell store the control value to enable or disable the comparison.

40(new). the differential TCAM of claim 38, wherein the two group three N transistors connected to match line work as a comparator .

41.(new) The differential TCAM cell of claim 38, wherein the capacitance loaded to dummy line from two group N transistor connected to dummy line are equal to the capacitance loaded to match line from two group N transistor connected to match line.